

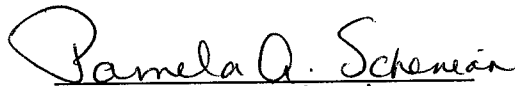
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15. Abstract (Limit 200 words)  In May 1994, the Fort Knox cultural resource management staff conducted a Phase I archaeological survey of 13.2 ha (32.5 acres) for the proposed Wilcox Range upland urban area, observation tower, and access road on Fort Knox, Bullitt County, Kentucky. The survey recorded 15Bu528 plus one isolate and revisited 15Bu489. Previously recorded 15Bu488 could not be relocated and is presumed destroyed. 15Bu486, in the project area and previously determined to be not eligible for the National Register, was not revisited. 15Bu486, 15Bu488, and 15Bu528 (late nineteenth-mid twentieth century historic sites) and the prehistoric isolate are not eligible for the National Register, and require no additional archaeological work. 15Bu489 is a prehistoric lithic scatter of indeterminate cultural-temporal affiliation. Only the portion of 15Bu489 in the access road improvements corridor was inspected and was determined to be severely disturbed. No additional work is recommended for 15Bu489 in conjunction with the proposed Wilcox Range access road improvements, but expansion north of the existing road would require further testing of 15Bu489. It is recommended that the upland urban area, observation tower, and access road be constructed as proposed. The proposed lowland Wilcox Range improvements area must be surveyed for cultural resources as a separate project.				
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A Phase I Archaeological Survey  
of the Proposed Wilcox Range Urban Area,  
Observation Tower, and Access Road  
on the Fort Knox Military Reservation,  
Bullitt County, Kentucky

Prepared by:

Pamela A. Schenian, Staff Archaeologist  
and  
Stephen T. Mocas, Assistant Staff Archaeologist

October 1994

  
Pamela A. Schenian  
Project Principal Investigator

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phone 502-624-6581, fax 502-624-3679

## ABSTRACT

In May 1994, the Fort Knox cultural resource management staff conducted a Phase I archaeological survey of approximately 13.2 ha (32.5 acres) for the proposed Wilcox Range upland urban area, the observation tower, and the access road between the upland and lowland portions of the range on the Fort Knox Military Reservation, Bullitt County, Kentucky. The survey resulted in the recording of one archaeological site, 15Bu528, and one prehistoric isolated find, and the revisiting of one previously recorded site, 15Bu489.

Site 15Bu488 was previously recorded near the access road, but could not be relocated and is presumed destroyed. One additional site, 15Bu486, lies in the project area but was not revisited due to previous research which adequately demonstrated that it was not eligible for the National Register.

Sites 15Bu486, 15Bu488, and 15Bu528 are late nineteenth to mid twentieth century historic sites. None of these sites or the isolated find is eligible for the National Register. No additional archaeological work is recommended for 15Bu486, 15Bu488, 15Bu528, or the isolated find.

Site 15Bu489 is a prehistoric lithic scatter of indeterminate cultural-temporal affiliation. Bush et al. (1989: 101-102) recommended that 15Bu489 was potentially eligible for the National Register. The current survey investigated only that portion of 15Bu489 in the proposed access road improvements corridor. The portion of 15Bu489 in the access road corridor has been severely disturbed by logging and road maintenance activities. No additional work is recommended for 15Bu489 in conjunction with the proposed Wilcox Range access road improvements, although any expansion into the woods to the north of the existing road would require further archaeological testing of 15Bu489.

It is recommended that the upland urban area, the observation tower, and the access road be constructed as proposed. The area of the proposed improvements to the lowland portion of the Wilcox Range needs to be surveyed for cultural resources as a separate project.

## MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations a Phase I archaeological survey was conducted in May 1994 of approximately 13.2 ha (32.5 acres) for the proposed Wilcox Range upland urban area and observation tower, and the proposed access road between the upland and lowland portions of the Wilcox Range, Fort Knox Military Reservation, Bullitt County, Kentucky. The survey recorded one archaeological site, 15Bu528, and one prehistoric isolated find, and revisited previously recorded site 15Bu489. Previously recorded site 15Bu488 could not be relocated and is presumed destroyed. Site 15Bu486 was previously determined to be not eligible for the National Register, and was not inspected in the current survey.

Sites 15Bu486, 15Bu488, 15Bu528, and the isolated find are not eligible for the National Register, and no additional archaeological work is recommended for these cultural resources. Bush et al. (1989) recommended that 15Bu489 was potentially eligible for the National Register. Only the portion of 15Bu489 in the access road corridor was inspected in the current survey. The portion of 15Bu489 in the access road corridor has been severely disturbed by logging and road maintenance activities. No additional work is recommended for 15Bu489 in conjunction with the proposed Wilcox Range access road improvements, but any expansion outside the currently proposed road corridor would require further testing of 15Bu489.

It is recommended that the upland urban area, the observation tower, and the access road be constructed as proposed. Site 15Bu528 contains the ruins of a limestone lined cellar, which constitutes a potential safety hazard, and which needs to be addressed in the final design of the urban area. The area of the proposed improvements to the lowland portion of the Wilcox Range needs to be surveyed for cultural resources as a separate project.

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## I. INTRODUCTION

In May 1994, the Fort Knox Cultural Resource Management (CRM) staff performed a Phase I archaeological survey of the proposed Wilcox Range upland urban area, the observation tower, and the access road to the proposed improvements to the lowland Wilcox Range area, at Fort Knox, Bullitt County, Kentucky (Figure 1). The areas surveyed encompass 13.2 ha or 32.5 acres.

The archaeological survey and literature review conducted in preparation for the proposed construction were required to comply with the National Environmental Protection Act, or NEPA (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

During 1993, the Fort Knox Staff Archaeologist obtained all of the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps), and these are on file at the CRM Branch of the Environmental Management Division of the Directorate of Public Works, Fort Knox. No file check, therefore, was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

A literature search revealed that the proposed urban area had not been surveyed previously, but that the entirety of the proposed access road and observation tower tract had been surveyed in one or more of three previous studies (O'Malley et al. 1980; Bush et al. 1989; Schenian 1991). As a result of these previous studies, sites 15Bu486, 15Bu488, and 15Bu489, had been recorded in or near (within 50 m) of the proposed access road, and were revisited during the project. The entire urban area and the entire upland portion of the access road corridor were field inspected in the current study. The access road corridor was field inspected, despite the fact that it had been previously surveyed, because some of the site locations were uncertain due to discrepancies between the 1960's U.S.G.S. topographic quad edition at the Office of State Archaeology and the 1991 quad edition used by the Fort Knox staff. Additionally, the ridge top along which the access road and proposed observation tower tract lie seemed to be a high potential area for prehistoric sites and the project offered the opportunity to verify the lack of sites on the ridge and assess the results of previous studies. The few sites recorded on this ridge made the CRM staff concerned that sites may have been missed by the previous studies.

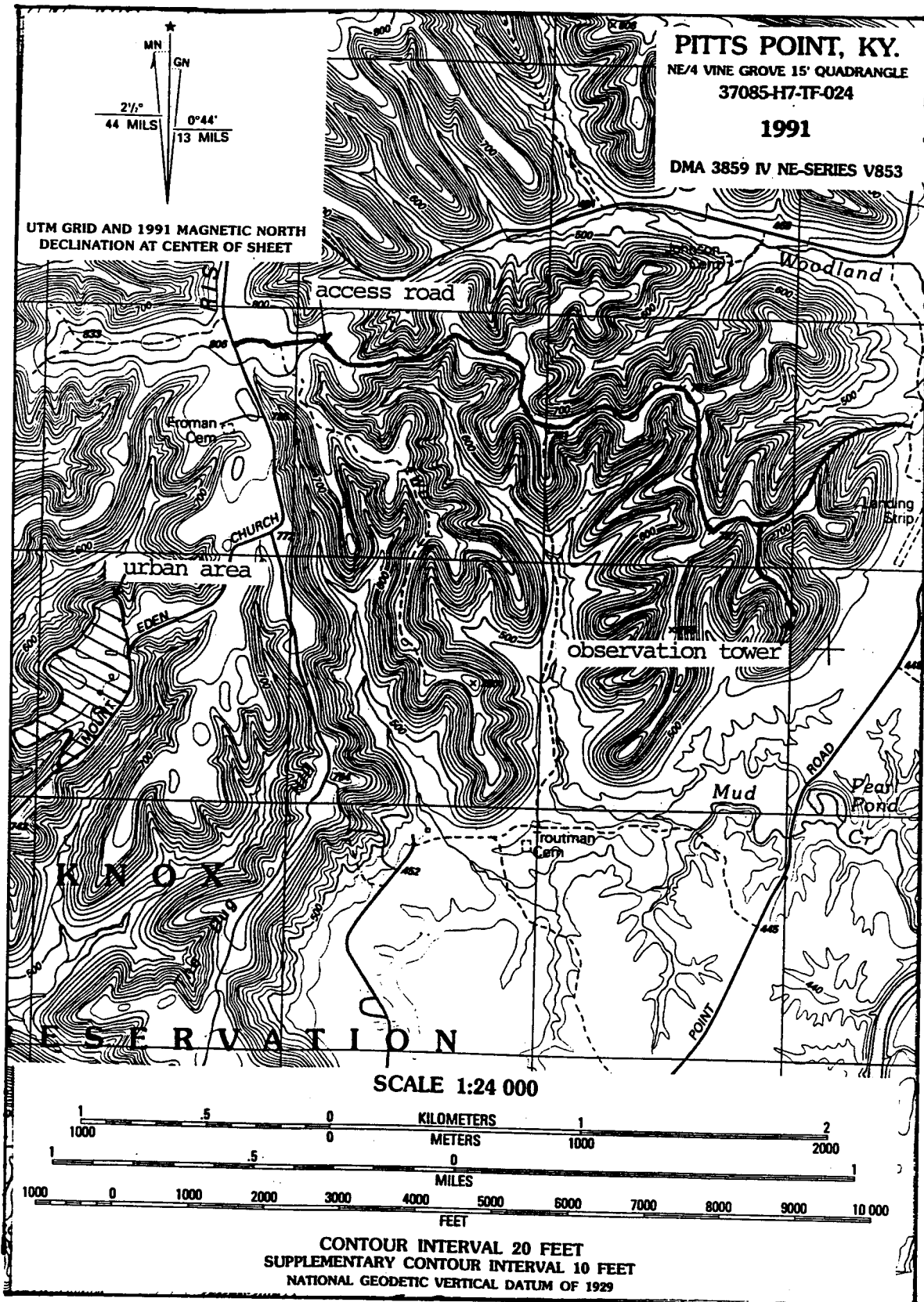


Figure 1. Location of Project Areas.



The project area is located in the Outer Bluegrass section of the Bluegrass cultural landscape. Drainage from the project areas is into tributaries of the Salt River. Elevations in the project area as a whole and on the access road range from 480 feet, where the access road enters the lowlands, to 805 feet, where the access road joins Mount Eden Church Road. The majority of the access road lies at an elevation of 760 to 780 feet, and the urban area varies in elevation from 720 to 760 feet. Soils in the project area are classified as Garmon-Frederick soil association (U.S.D.A. 1975).

The improvements to the access road will consist of the grading and gravelling of an existing dirt road. Some areas of the road, particularly at the west end, may be slightly widened, but much of the ridge top is too narrow to permit expansion of the road. Development of the observation tower tract will consist of the construction of an observation tower and the gravelling of a small parking area. The development of the urban area will consist of the construction of a mock village to be used in the training of troops for urban warfare. The urban area will include high tech equipment and special effects created by Paramount Productions, and its development is expected to result in extensive disturbance of the ridge top, due to the installation of underground cables and other utilities.

The surface reconnaissance of the project areas, supplemented by shovel testing, was performed by the CRM staff (Pamela Schenian and Stephen Mocas) on May 10 and 11, 1994. A total of 18 person hours were spent in the survey and testing of the proposed urban area, observation tower tract, and access road.

The artifacts from the survey were washed and catalogued by student assistants at the University of Louisville Program of Archaeology. The artifacts were analyzed by the Staff Archaeologist and Assistant Staff Archaeologist. The artifacts and the documentation for this project will be curated at the Program of Archaeology, University of Louisville, on a "permanent loan" basis, under contract number DABT 23-93-C-0093, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

## II. SETTING AND ENVIRONMENTAL BACKGROUND

O'Malley et al. (1980) have prepared a detailed description of the setting and environmental background of the Fort Knox installation as a whole. This section will concentrate on the characteristics of the the proposed Wilcox Range

upland urban area, the observation tower tract, and the proposed access road between the upland and lowland portions of the Wilcox Range, which were inspected in the current study.

The project area is located in the Knobs physiographic region (McGrain and Currens 1978). The project area is characterized by generally narrow, steep-side ridges, rising 200 feet or more above the broad, flat floodplain of the Salt River.

Elevations range from 480 feet, where the access road enters the lowlands, to 805 feet, where the access road joins Mount Eden Church Road. The majority of the access road lies at an elevation of 760 to 780 feet, the observation tower tract is at an elevation of 760 feet, and the urban area varies in elevation from 720 to 760 feet.

Drainage from the project area is into tributaries of the Salt River. Drainage from the west side of the urban area is into the Rogers Hollow creek, and on the east side, is into an unnamed tributary system. Drainage from the urban area flows into the Salt River below the confluence with the Rolling Fork. Drainage from the north slopes of the access road corridor is into tributaries of Woodland Creek, and drainage on the south slopes is into Mud Run. Woodland Creek and Mud Run join the Salt River upriver from the confluence of the Rolling Fork and the Salt River.

Soils in the project area are classified as Garmon-Frederick soil association (U.S.D.A. 1975). Soils on the broad ridge top portion of the urban area are Nicholson silt loam, with Crider silt loam or Hagerstown silt loam soils on the adjoining upper slopes. Soils in the the majority of the access road corridor are Hagerstown and Crider silt loam, and Garmon silt loam, Lenberg-Carpenter complex, and Sensabaugh gravelly loam soils on the slope descending to the lowlands. The lowland portion of the access road is on McGary silt loam soils.

### III. PREVIOUS RESEARCH

Approximately 30,000 acres of the Fort Knox installation have been surveyed, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. This section will focus on the previous research conducted within a 2 km radius of the current project areas.

No portion of the project urban area had been previously surveyed, but all of the observation tower tract and the access road had been previously surveyed by O'Malley et al. (1980), Bush et al. (1989), or Schenian (1991). Within 2 km

of the project area, O'Malley et al. (1980) surveyed one-quarter of each Hunting Area 35-36, 39-44, 46, 47, and 95, recording numerous sites. Bush et al. (1989) surveyed portions of Hunting Areas 41 and 42, recording 15Bu485-15Bu491. Myers (1990) surveyed a portion of Hunting Area 95, recording 15Bu495-15Bu502, and revisiting 15Bu367. Schenian (1991) surveyed the area connecting the east end of the access road to the existing Pitts Point Road, recording 15Bu492 (a prehistoric site in disturbed context), and one isolated find. Driskell and O'Malley surveyed a portion of Hunting Area 47, recording 15Bu394-15Bu397.

Of the sites recorded in the studies mentioned above, 15Bu488 and 15Bu489 were recorded within 50 m of the access road corridor at its west end. Site 15Bu486 is approximately 60 m north of the access road as it enters the floodplain, and 15Bu492 is approximately 260 m to the southeast of this location. Site 15Bu326 is located approximately 100 m from the west end of the access road, on the opposite side of Mount Eden Church Road. The next nearest sites are over 300 m from any portion of the current project area.

No standing structures listed on or eligible for listing on the National Register of Historic Places are located in or within view of the current project area, and no unassessed structures greater than 50 years old are located in or near the project areas. Several buildings exist in the proposed urban area, but these are all of post-WWII construction. No archaeological sites listed on the National Register are known to be located in or immediately adjacent to the current project area, although many of the sites recorded on the base must be assumed to be potentially eligible for the National Register because they have not been adequately documented to be not eligible.

#### IV. SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) All portions of the project area were acquired by the Army in the 1940's. The land acquisitions maps from the 1940's depict the property boundaries, but not specific structural locations. The boundaries of the urban area nearly coincide with the boundaries of a single historic property, so there was a high potential for a historic site located in this portion of the project area. The access road passes through four or five historic properties. Since all of these properties included considerably more land than the access road corridor, there was a low to moderate poten-

tial for the discovery of a historic site in each of these properties.

- 2) The project area consists primarily of ridge crests. This setting, especially in view of the proximity of the Salt River, was considered to have a high potential for prehistoric archaeological sites.
- 3) Three sites (15Bu486, 15Bu488, and 15Bu489) had been previously recorded in or near the access road corridor, so there was a moderate to high potential for encountering materials associated with these sites.

#### V. FIELD METHODS

In general, the urban area, access road, and observation tower tract were systematically walked in transects at paced 10 m intervals. If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel test was excavated. Each shovel probe was approximately 30 cm square and excavated to a depth of 30 cm or until sterile subsoil was encountered. The walls of each STP were scraped and inspected for evidence of archaeological materials or deposits. The fill from the shovel probes in site areas was screened through one-quarter inch hardware cloth prior to backfilling, and the fill was trowel-sorted in non-site areas.

The north end of the urban area consisted of a wooded area with approximately 50 percent ground surface visibility, an area of high grass with nearly zero percent visibility, and a field, in stubble, with very good visibility (50 to 100 percent). Several transects walked through the woods yielded evidence of previous disturbance of this area in the form of bulldozer piles. It was also determined that the ridge top was much narrower than indicated on the 20 foot interval contour map, rapidly giving way to steep slopes. The area of high grass was shovel probed at 10 m intervals, and many of the shovel probes encountered road gravel, suggesting that the area nearer the buildings had once been thinly gravelled.

The central portion of the urban area had one large metal warehouse, many small abandoned buildings and ruins of buildings, and cement pads from former buildings. Construction of this building cluster probably began in 1941, when construction of Wilcox Range began. Most of the World War II era buildings have been demolished or are in ruins, and the few standing structures are in poor condition. The large metal warehouse probably dates to the 1950's or 1960's. Two wood buildings appear to be World War II era temporary

buildings, which, in accordance with the completed nationwide programmatic agreement on World War II temporary buildings, are exempted from Section 106 and Section 110 requirements. All military buildings in this portion of the base postdate 1940.

This portion of the proposed urban area formerly contained gravel driveways and parking areas associated with the buildings, and the area surrounding the buildings had been thoroughly scraped to subsoil during the construction and/or demolition of the buildings. To the southwest of the proposed urban area, on the main part of the ridge, was a log yard. This area had numerous deep ruts, a large area of standing water, fallen trees, and brush piles. Most of the log yard which was not under water was in dense grass, with nearly zero percent visibility. Shovel probes indicated that the wooded area to the north of the logging road had been thoroughly disturbed by the logging activities.

The previously developed portion of the ridge top and the log yard were separated from two ridge spurs to the south by a logging road. The southeastern side of the proposed urban area, adjacent to Mount Eden Church Road, consisted of plowed fields and a shallow borrow pit. Ground surface visibility in the plowed fields averaged 50 percent. The borrow pit was excavated approximately 1 m to 1.5 m below the original ground surface. The base of the borrow pit was in subsoil, but was walked in case cultural materials had eroded into the borrow pit. The cutbanks of the borrow pit were examined for evidence of archaeological materials or deposits. No evidence of archaeological materials or deposits was observed in the borrow pit or cutbank.

The southwestern ridge spur contained large trees, areas of dense grass, briars, small ponds in areas where tanks or logging vehicles had become mired, and huge ant hills. Ground surface visibility was very variable in this area. The southwest end was densely wooded, and it was shovel probed if the ground surface visibility was obscured for greater than 10 m in a transect.

The existing access road is very narrow and in most places, the ridge is so narrow that expansion is impossible, so the access road corridor was walked in two transects generally less than 10 m apart, one transect near the left road bank and one near the right. Ground surface visibility was generally 100 percent in the road bed and on the road banks. The areas where the road or the ridge widened were walked at wider intervals and, occasionally, shovel probed. The trail to the overlook above Cedar Creek was extremely narrow and was walked at less than 10 m intervals because there was less than 5 m of level area along most of the trail. Bedrock was very near the surface, which precluded shovel probing. Survey of the access road was discontinued at the point where the road enters the lowlands, since the remaining 400

m between this point and the juncture of the access road with Pitts Point Road had been previously surveyed by Schenian (1991), with negative results.

The survey resulted in the discovery of archaeological materials at three locations. When artifacts were discovered at the previously recorded site, the newly recorded site, and the isolated find, the area around the finds was walked at 2 to 5 m intervals until no additional materials were observed for a distance of at least 20 m from the previous find. Shovel tests were excavated on sites 15Bu489 and 15Bu528, but not in the area of the isolated find. The isolated find was recovered from the access road. This portion of the access road was extremely eroded, and it is unlikely that the isolated find was in situ. The area to the south of the road was very disturbed, and the log yard to the north had apparently been scraped to subsoil by logging activities. No other cultural material was found in the areas adjoining the access road in the isolated find vicinity.

Site 15Bu488 was recorded by Bush et al. (1989) on the basis of materials scattered along the access road and an adjacent pile of historic materials bulldozed from the surface of the site (Bush et al. 1989). No architectural remains were found on the site when it was originally surveyed (Bush et al. 1989). During the present survey, only a few historic to modern artifacts were recovered from the road bed to the west of the reported site location (actually on the 15Bu489 extension). The site location reported by Bush et al. had been further destroyed by maintenance of the access road and timbering of the surrounding woods, since the time of their survey.

In summary, the archaeological investigation of the proposed Wilcox Range urban area, observation tower tract, and access road resulted in the recording of 15Bu528 in the proposed urban area, the discovery of an isolated prehistoric artifact, and the revisitation of 15Bu488 and 15Bu489. These sites and the materials collected from them will be described in greater detail in the following sections.

## VI. ARTIFACT TYPOLOGY AND MATERIALS RECOVERED

The following paragraphs summarize the artifact typologies used in the sorting and analysis of the artifacts. Mocas analyzed the prehistoric artifacts, and Schenian analyzed the historic artifacts.

## Prehistoric Artifact Typology

### Chert debitage

Chert debitage is a catchall category used to describe the material generally created as a by-product in the manufacture of more formally defined chipped stone tools. Chert debitage may be further divided into the categories of flakes, blocky chert pieces, and chert shatter. It may also be classified by stage of manufacture and by evidence for use as an informal, or expedient, tool. The following criteria have been applied to sort the chert debitage collected in this study:

- 1) Flakes are defined by the presence of a striking platform and bulb of percussion. Concentric rings or ripple marks on the ventral surface, and feather terminations may also be present. Flakes are classified as primary flakes if 90 percent or more of the dorsal surface (the side opposite the bulb of percussion) is covered by cortex or rind; as secondary flakes if one to 90 percent of the dorsal surface is covered by cortex; and as tertiary flakes if no cortex is present on the dorsal surface.
- 2) A chert piece is classified as shatter if it is a flat, generally small, piece exhibiting some flake-like characteristics, but is insufficiently complete to classify the piece as a primary, secondary or tertiary flake.
- 3) A blocky chert piece is an angular chert piece lacking flake-like characteristics, and lacking evidence of having served as a core.
- 4) A piece of chert debitage is classified as utilized if at least three contiguous small flakes have been removed from one or more edges by use rather than retouch.
- 5) A piece of chert debitage is classified as unutilized if it exhibits no evidence of the removal of small flakes through use.

A total of 11 pieces of chert debitage, all tertiary flakes, were recovered from 15Bu489. One tertiary flake was recovered as an isolated find. The isolated find and one of the flakes from 15Bu489 were Wyandotte chert, and the remaining flakes from 15Bu489 were local Muldraugh chert.

## Historic Artifact Typology

Maples (1991) was used to sort the historic artifacts recovered in this project. The following paragraphs summarize the artifact typologies used in the sorting and analysis of the artifacts recovered during this project, and describe specific artifacts in greater detail. The historic artifact inventory is summarized in Table 1.

South (1977:95-95) defined a system of artifact classification based on function. Under South's system, for example, ceramics and curved glass are kitchen group artifacts and flat glass and bricks are architectural group artifacts.

In addition to the whiteware sherd listed for 15Bu489 (assumed to be redeposited from 15Bu488), several pieces of glass were also recovered. These were determined to be of modern origin, however, and were discarded.

### KITCHEN GROUP

#### Ceramics

Historic ceramics are divided into coarse earthenware, stoneware, ironstone, refined earthenware, semi-porcelain, and porcelain. Coarse and refined earthenware have the most porous paste, stoneware and ironstone have less porous paste, and semi-porcelain and porcelain have the least porous paste. Each of these broad categories is further divided into more specific types based on paste texture and color, glaze characteristics, and decoration (Maples 1991).

Refined earthenware. One whiteware sherd was recovered from 15Bu489. It is assumed to have been redeposited from 15Bu488 during one of the episodes of road maintenance grading. White-ware dates from 1830 to 1890 (Smith 1983:171).

Ironstone. Three white paste ironstone sherds were collected from 15Bu528. One sherd is a plate fragment with a floral transfer print decoration. The other two from a single plate, with relief decoration, a scalloped edge, and an ivory glaze. The ivory glaze is of a shade typical of certain Homer Laughlin patterns. Ironstone dates from 1860 to 1920 (Ketchum 1983:201). Ironstone with a scalloped edge in combination with relief or impressed decoration dates from ca. 1895 to 1920 (cf. Montgomery Ward & Co. 1969; Sears, Roebuck & Co. 1920).



Table 1. Inventory of Historic Artifacts.

	15Bu528						15Bu		Project
	STP	STP	STP	STP	STP	STP	528	15Bu	Total
	1	2	3	4	5	6	Total	489*	
<b>KITCHEN GROUP</b>									
Ceramic									
Ironstone									
White	0	0	0	3	0	0	3	0	3
Refined Earthenware									
Whiteware	0	0	0	0	0	0	0	1	1
Glass, bottle									
Amethyst, solarized	0	1	0	0	0	0	1	0	1
Aqua	0	0	0	1	0	0	1	0	1
<b>Kitchen Group Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>6</b>
<b>ARCHITECTURAL GROUP</b>									
Glass, flat (window)									
Green	0	0	1	0	0	1	2	0	2
Brick/Ceramic block	0	0	1	0	1	0	2	0	2
<b>Architectural Group Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>4</b>
<b>TOTAL HISTORIC MATERIALS</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>10</b>

\* Assumed to be redeposited from destroyed 15Bu488.

### Glass

Glass kitchen artifacts are divided into three main categories. These are bottles, dishware, and canning jar lid liners. No lid liners or dishware were found in this project, but two bottle glass fragments were recovered from 15Bu528. One is an amethyst bottle fragment and one is an aqua bottle fragment. Both are unlettered. Amethyst glass dates from ca. 1880 to 1914 (Newman 1970:70-75).

## **ARCHITECTURE**

### Brick/Ceramic Block

One brick fragment and one fragment of ceramic block were recovered from 15Bu528.

### Flat (window) glass

Two pieces of green flat glass were recovered from site 15Bu528.

## VII. CULTURAL RESOURCES

### 15Bu486

Bush et al. (1989:46, 71-73) describe 15Bu486 as a historic farm and/or residence encompassing an area of approximately 15 m by 20 m area in a hollow in a triangular area bounded to the north by an unnamed tributary, to the east by the existing dirt access road, and to the south and southwest by the ridge slopes (Figure C-1). Bush et al. (1989:72) observed structural debris on the site and recovered 23 historic artifacts, most dating from the late nineteenth to mid twentieth century. Bush et al. (1989:101) recommended that the site was not eligible for the National Register due to previous disturbance, and recommended no additional work at the site.

Site 15Bu486 was not revisited in the current study, because its location is clearly demarcated by topographic features, and the investigation by Bush et al. (1989) had been conducted recently enough that the field methods and recommendations meet current standards. The only information that the current researchers have to add about 15Bu486 is that it was on the property acquired from R.J. Baird in the 1940's. The name Baird does not appear in Lindstrom (1988), McDowell (1975), or Wright (1981), suggesting that the Baird family did not arrive in the area until after 1876. This supports the dates suggested by the assemblage.

Based on the information from Bush et al.'s investigation, 15Bu486 is not eligible for the National Register. No additional archaeological work is recommended for 15Bu486.

#### 15Bu488

Bush et al. (1989:52, 76-77) describe 15Bu488 as a historic farm and/or residence covering an approximately 20 m by 20 m area in and adjacent to the access road (Figure C-1). Bush et al. (1989:76) reported the presence of stone and brick rubble in a bulldozer pile on the north side of the road, yucca and daffodil plants on the south side of the road, and historic artifacts in the road and to the north of the road. Bush et al. (1989:101) recommended that 15Bu488 was not eligible for the National Register due to previous disturbance by bulldozing and recommended that no additional archaeological work was required for the site.

No evidence was found of 15Bu488 in the reported location in the current study. Both yucca plants and daffodils should have been obvious at the time of survey, but none were observed in this location. It is presumed that the site was completely destroyed by the logging activities and additional road maintenance activities since the Bush et al. study, and that, as a result of these activities, the structural rubble and artifacts have been pushed into ravines over the ridge crests onto the steep slopes. One piece of whiteware, which is presumed to be redeposited from 15Bu488, was found approximately 100 m west of the recorded site location on prehistoric site 15Bu489. Site 15Bu488 and 15Bu489 were both located on the property of Fannye Samuels at the time of purchase in the 1940's, and 15Bu488 was probably Samuels' residence.

Bush et al. (1980:101) recommended that 15Bu488 was not eligible for the National Register due to extensive previous disturbance. They further recommended that no additional archaeological research be conducted at the site. The current researchers concur with these recommendations.

#### 15Bu489

The prehistoric cultural materials recovered from the west end of the access road appear to be part of previously recorded site 15Bu489 (Bush et al. 1989) (Figures C-1, C-2, and C-5). Bush et al. (1989:78-79) describe this as an open prehistoric site, approximately 25 m in diameter, located north of the access road. The original survey recovered seven chert flakes, all from shovel probes. During the present survey, 11 chert flakes and one whiteware sherd were recovered from the surface of the access road, beginning approximately 100 m east of Mount Eden Church Road, and

extending for 70 m to the east and 20 m north-south. The whiteware sherd is assumed to have been redeposited from the destroyed site, 15Bu488. At 15Bu489, dirt had been scraped from the south side of the road and piled on the north side. Five shovel probes were excavated adjacent to the access road, in areas of potential intact deposits. The shovel probes indicated that the area adjacent to the road had been thoroughly disturbed by road maintenance and logging activities since the Bush et al. survey.

Bush et al. (1989:101-102) recommended that 15Bu489 was potentially eligible for the National Register due to the poor field conditions at the time of their study and that additional archaeological work would be needed at 15Bu489 in order to assess its National Register eligibility. The current survey limited the investigation of 15Bu489 to the proposed access road corridor. The portion of the 15Bu489 in the access road corridor has been severely disturbed by logging and road maintenance activities. No additional work is recommended for 15Bu489 in conjunction with the proposed Wilcox Range access road improvements, although any expansion into the woods to the north of the existing road would require further archaeological testing of 15Bu489.

#### 15Bu528

Site 15Bu528 is a late nineteenth to mid twentieth century farmstead located on the top and upper northwest slope of a ridge, at an approximate elevation of 740 feet (Figures C-1, C-3, and C-5). Ground surface visibility was very poor (generally less than 10 percent), due to dense grass and leaf cover. The site encompassed a 30 by 40 m (east-west) area, and all the material was recovered from shovel probes. The former house location was roughly demarcated by rows of daffodils and the spacing of large trees, but no evidence was found of foundation stones. An approximately 5 m by 8 m limestone slab cellar from an outbuilding was present on the slope west of the assumed house location, although it was apparent that the upper tiers of slabs had been bulldozed into the foundations. A spring is located approximately 10 m down the ravine slope from the cellar.

Bulldozer piles and displaced daffodils provided additional evidence of previous disturbance of the site, as did the presence of the remnants of felled trees and stumps. The soil on the site had an extremely high organic content, the reason for which could not be ascertained. It is possible, however, that the site area had been used for the burning of brush and limbs during logging operations which had been conducted in the vicinity, and the high organic content is due to the leaching of the sawdust, ashes, charcoal into the soil.

Site 15Bu528 was on the property acquired by the Army from Veronia Blevins in the 1940's. Since the boundaries of the proposed urban area nearly coincide with the boundaries of the Blevins' property, 15Bu528 was probably Veronia Blevins' house site. The materials recovered and the outbuilding foundations did not appear to be older than turn-of-the-century. The Army acquired property from three Blevins families (two in Bullitt County and one in Hardin County) in the 1918-1919 period of land acquisition, and one of the families may have relocated to this site about that time.

Site 15Bu528 is not eligible for the National Register, due to previous disturbance by bulldozing and logging. Other than the ruins of a limestone-lined cellar, no evidence was found of intact or potentially intact cultural deposits. No additional archaeological work is recommended for 15Bu528.

#### Isolated Find

A tertiary flake made from Wyandotte chert was found as an isolate in a severely eroded portion of the existing access road (Figures C-1 and C-4). Ground surface visibility was 100 percent in the road, which was eroded well into subsoil. It is unlikely that the isolated find was in situ. The area to the south of the road was very disturbed and had numerous bulldozer piles. The log yard to the north had apparently been scraped to subsoil by logging activities. It was in short grasses and weeds with numerous open patches, and ground surface visibility averaged 50 percent. No evidence of other archaeological materials or of potential archaeological deposits was observed in the areas adjoining the access road in the isolated find vicinity.

Isolated finds are not eligible for the National Register. No additional archaeological work is recommended for the isolated find location.

### VIII. CONCLUSIONS AND RECOMMENDATIONS

The Phase I archaeological survey of the proposed Wilcox Range upland urban area, the observation tower tract, and the access road between the upland and lowland portions of the range on the Fort Knox Military Reservation, Bullitt County, Kentucky, was conducted in May 1994. The survey resulted in the recording of one archaeological site, 15Bu528, and one prehistoric isolated find, and the revisiting of one previously recorded site, 15Bu489. Site 15Bu528 is located in the proposed urban area, and site 15Bu489 and the isolated find are located in the proposed access road improvements corridor.

Site 15Bu488 also was previously recorded near the access road, but could not be relocated and is presumed to have been destroyed by logging and road maintenance activities since it was recorded by Bush et al. (1989). One additional site, 15Bu486, is located near the lowland segment of the the access road but was not revisited because it was felt that Bush et al. (1989) adequately demonstrated that it was not eligible for the National Register in accordance with the current standards for archaeological research.

Sites 15Bu486, 15Bu488, and 15Bu528 are late nineteenth to mid twentieth century historic sites. Sites 15Bu486, 15Bu488, 15Bu528, and the isolated find are not eligible for the National Register, and no additional archaeological work is recommended for these four cultural resources.

Site 15Bu489 is a prehistoric lithic scatter of indeterminate cultural-temporal affiliation. Bush et al. (1989: 101-102) recommended that 15Bu489 was potentially eligible for the National Register due to the poor field conditions at the time of their study and that additional archaeological work would be needed at 15Bu489 in order to assess its National Register eligibility. The current survey investigated only that portion of 15Bu489 to the proposed access road improvements corridor. The portion of 15Bu489 in the access road corridor has been severely disturbed by logging and road maintenance activities. No additional work is recommended for 15Bu489 in conjunction with the proposed Wilcox Range access road improvements, although any expansion into the woods to the north of the existing road would require further archaeological testing of 15Bu489.

The open cellar ruins at 15Bu528 constitute a safety hazard, because they cannot be easily seen when approached from the north or the east. It is a drop of 1 to 2 m into the cellar, and the jagged limestone blocks from the upper tiers which were bulldozed into the cellar. It is recommended that this cellar be removed or filled. Alternatively, since the urban area will include building ruins, this ruin (with appropriate hazard warnings) and the rest of site 15Bu528 could be incorporated into the urban area design to lend a feeling of authenticity instead of having all new "ruins" in the training area.

It is recommended that the upland urban area and observation tower be developed as proposed. It is recommended that the access road be improved as proposed. The area of the proposed improvements to the lowland portion of the Wilcox Range needs to be surveyed for cultural resources as a separate project.

If archaeological materials are discovered during the construction activities, all activity in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-6661) and the DPW staff archaeologist (502-624-

6581) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

## REFERENCES CITED

- Bush, David R.  
 1988a 15Bu486 Kentucky Archaeological Site Survey Form.  
 Copy on file at the Office of State Archaeology,  
 University of Kentucky, Lexington.
- 1988b 15Bu488 Kentucky Archaeological Site Survey Form.  
 Copy on file at the Office of State Archaeology,  
 University of Kentucky, Lexington.
- Bush, David R., Mark A. Kolleyer, Jare Cardinal, and Renea  
 Martello  
 1989 A Cultural Resource Investigation of Timber Areas  
 41, 42, and 52 within the Fort Knox Military Reser-  
 vation in Bullitt and Hardin Counties, Kentucky.  
 David R. Bush, Eastlake, Ohio.
- Driskell, Boyce, and Nancy O'Malley  
 1979 An Archaeological Survey and Assessment of Areas to  
 be Modified at the Wilcox Gunnery Range, Fort Knox,  
 Kentucky. Archaeology Report No. 15, Department of  
 Anthropology, University of Kentucky, Lexington.
- Ketchum, William C.  
 1983 Pottery and Porcelain. Alfred A. Knopf, New York.
- Lindstrom, Joyce  
 1988 Bullitt County, Kentucky, Marriages, 1797-1876.  
 Ancestral Trails Historical Society, Vine Grove,  
 Kentucky.
- Maples, Trina  
 1991 Procedures for Cataloguing Historic Materials. 1991  
 Update. Program of Archaeology, University of  
 Louisville, Louisville.
- McDowell, Sam  
 1983 Fort Knox Cemeteries in Bullitt, Hardin, and Meade  
 Counties, Kentucky. Sam McDowell, Richland, Indiana.
- McGrain, Preston, and James C. Currens  
 1978 Topography of Kentucky. Kentucky Geological Survey  
 Series X. Special Publication 25. University of  
 Kentucky, Lexington.
- Montgomery Ward & Co.  
 1969 Catalogue and Buyer's Guide, No. 57, Spring and  
 Summer 1895. Reprinted by Dover Publications, New  
 York.



- Myers, Jeffery A.  
 1990 A Cultural Resources Reconnaissance of 287 Acres in the Central Portion of Hunting Area 95, Fort Knox, Bullitt County, Kentucky. Murray State University, Murray.
- Newman, Stell T.  
 1970 A Dating Key for Post-Eighteenth Century Bottles. Historical Archaeology 4:70-75.
- O'Malley, Nancy, Boyce Driskell, Julie Riesenweber, and Richard Levy  
 1980 Stage I Archaeological Investigations at Fort Knox, Kentucky. Archaeological Report No. 16, Department of Anthropology, University of Kentucky, Lexington.
- Schenian, Pamela A.  
 1991 A Phase I Archeological Survey of Hunting Areas 17, 30, and 41, Fort Knox Military Reservation, Bullitt and Hardin Counties, Kentucky. Murray State University, Murray.
- Schenian, Pamela A., and Stephen T. Mocas  
 1994 A Phase I Archaeological Survey of the Fall 1994 Rehab Areas in Training Areas 9 and 10 on the Fort Knox Military Reservation, Meade County, Kentucky. Directorate of Public Works, Fort Knox.
- Sears, Roebuck & Company  
 1920 Spring Catalog. Sears, Roebuck & Company, Chicago.
- Smith, Samuel D.  
 1983 Excavation of a Mid-Nineteenth Century Trash Pit, Wynnewood State Historic Site, Sumner County, Tennessee. Tennessee Anthropologist 8(2):133-181.
- South, Stanley  
 1977 Method and Theory in Historical Archeology. Academic Press, New York.
- United States Department of Agriculture  
 1975 General Soil Map, Kentucky. Soil Conservation Service, Washington, D.C.
- United States Geological Survey  
 1991 Pitts Point, Kentucky, 7.5 Minute Topographic Quadrangle.
- Wright, Joan June  
 1981 Bullitt County, Kentucky, 1850 Census. Ancestral Trails Historical Society, Vine Grove, Kentucky.

APPENDIX A.  
RESUMES OF KEY PERSONNEL

Pamela A. Schenian  
Staff Archaeologist and Project Principal Investigator

Office Address: Directorate of Public Works  
ATTN: ATZK-DPW (Schenian)  
U.S. Army Armor Center and Fort Knox  
Fort Knox, Kentucky 40121-5000  
Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Staff  
Archaeologist and Cultural Resource Manager

Education:

A.B.D. in Anthropology, Northwestern University, 1984.  
M.A. in Anthropology, Northwestern University, 1982.  
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Mur-  
ray State University, Murray, KY, November 1991-June 1993;  
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field  
Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field  
Assistant II (Supervisor), summer 1983; Field Technician,  
summer 1981.

Center for American Archeology, Kampsville, IL: Field  
Technician, summer 1982.

Department of Anthropology, Northwestern University,  
Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee,  
WI: Field Technician, summer 1979.

Field Research Experience:

Prehistoric and historic archaeological projects in the  
states of Illinois, Indiana, Kentucky, New Jersey, South  
Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:  
89 CRM contract reports on projects in Indiana, Kentucky,  
and Tennessee.

1 Homicide site excavation contract report prepared in lieu  
of court testimony in Illinois.

7 Papers presented at professional conferences.

5 Publications, 1 in press.

Doctoral candidacy qualifying paper: "A Theory of Individ-  
ual Style Variation for Archeological Studies".

Manuscript submitted in partial fulfillment of the M.A.

requirements: "Models of Environmental-Cultural Relation-  
ships: Testing with Archeological Evidence".

Stephen T. Mocas  
Assistant Staff Archaeologist

Office Address: Directorate of Public Works  
ATTN: ATZK-DPW (Mocas)  
U.S. Army Armor Center and Fort Knox  
Fort Knox, Kentucky 40121-5000  
Phone: (502) 624-6581

Present Position: University of Louisville Program of  
Archaeology/Fort Knox Assistant Staff Archaeologist

Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.

B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

Indiana University, Bloomington, Indiana: Staff Archaeologist, September 1991-November 1993.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.  
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

3 non-contract site reports on projects  
21 CRM contract reports on projects  
5 Chapters in additional site reports.  
4 Publications, 1 in press.